

# Contents of *Aquaculture*, Volume 106

VOL. 106 NO. 1

15 AUGUST 1992

<b>Announcement from the Publisher .....</b>	<b>vi</b>
<b>Diseases, Parasites and Predators</b>	
Treatment of cultured golden snapper, <i>Lutjanus johni</i> Bloch, infected with monogeneans Liang K.S. and Leong T.S. (Penang, Malaysia) .....	1
<b>Genetics and Breeding</b>	
Genetic parameters of growth and sexual maturity in Arctic char ( <i>Salvelinus alpinus</i> ) J. Nilsson (Umeå, Sweden) .....	9
Optimization of triploid induction for the oyster <i>Crassostrea virginica</i> (Gmelin) B.J. Barber, R. Mann (Gloucester Point, VA, USA) and S.K. Allen Jr. (Port Norris, NJ, USA) .....	21
<b>Husbandry and Management</b>	
The effect of supplementary inorganic fertilization on juvenile walleye ( <i>Stizostedion vitreum</i> ) reared in organically fertilized ponds M.G. Fox (Peterborough, Ont., Canada), D.D. Flowers (Sharbot Lake, Ont., Canada) and C. Watters (Kingston, Ont., Canada) .....	27
Effect of nutrient enrichment on <i>Tridacna derasa</i> seed: dissolved inorganic nitrogen increases growth rate L.C. Hastie (Aberdeen, UK), T.C. Watson, T. Isamu and G.A. Heslinga (Koror, Palau) .....	41
<b>Nutrition</b>	
Temporal changes in daily food intake of Arctic charr, <i>Salvelinus alpinus</i> L., of different sizes monitored by radiography J.Ö. Pálsson, M. Jobling and E.H. Jørgensen (Tromsø, Norway) .....	51
Pigmentation of adult rainbow trout, <i>Oncorhynchus mykiss</i> , using the green alga <i>Haematococcus pluvialis</i> T.R. Sommer, F.M.L. D'Souza (Bayswater, W.A., Australia) and N.M. Morrissy (North Beach, W.A., Australia) .....	63
<b>Physiology and Endocrinology</b>	
Changes in plasma lysozyme and blood leucocyte levels of hatchery-reared Atlantic salmon ( <i>Salmo salar</i> L.) and sea trout ( <i>Salmo trutta</i> L.) during parr-smolt transformation M. Muona and A. Soivio (Helsinki, Finland) .....	75
Gonadal cycle of <i>Crassostrea gigas kumamoto</i> (Thunberg) in Yaquina Bay, Oregon and optimum conditions for broodstock oysters and larval culture A. Robinson (Newport, OR, USA) .....	89

**Announcement from the Publisher** ..... ii

**Economics and Marketing**

- Broodstock replacement policies for rainbow trout under photoperiod control and uncertainty  
S.H. Logan and W.E. Johnston (Davis, CA, USA) ..... 99

**Genetics and Breeding**

- Artificial hybridization of Newfoundland brown trout and Atlantic salmon: hatchability, survival and growth to first feeding  
C. McGowan and W.S. Davidson (St. John's, Nfld., Canada) ..... 117
- Electric field-induced polyploidy in mollusc embryos  
J.-P. Cadoret (La Tremblade, France) ..... 127

**Husbandry and Management**

- Rearing methods for two damselfish species: *Dascyllus albisella* (Gill) and *D. aruanus* (L.)  
B.S. Danilowicz (Beaufort, NC, USA) and C.L. Brown (Kaneohe, HI, USA) ..... 141
- Early survival and growth of pink salmon (*Oncorhynchus gorbuscha*) in fresh and saline water  
T.D. Beacham (Nanaimo, B.C., Canada) ..... 151

**Nutrition**

- Contribution of digestible energy from carbohydrates and estimation of protein/energy requirements for growth of rainbow trout (*Oncorhynchus mykiss*)  
J.D. Kim (Chuncheon, South Korea) and S.J. Kaushik (Saint Pée sur Nivelle, France) ..... 161

**Physiology and Endocrinology**

- Ultrastructural study of the effect of freezing-thawing on the gametophyte of the brown alga *Undaria pinnatifida*  
T. Ginsburger-Vogel, S. Arbault and R. Pérez (Nantes, France) ..... 171
- The comparative effectiveness of the natural and a synthetic estrogen for the direct feminization of chinook salmon (*Oncorhynchus tshawytscha*)  
F. Piferrer and E.M. Donaldson (West Vancouver, B.C., Canada) ..... 183

**Short Communication**

- Immunization of rainbow trout (*Oncorhynchus mykiss*) against gonadotropin releasing hormone: a possible approach to the control of sexual maturation in fish  
Ø. Andersen (Aas, Norway), H.J.S. Larsen (Oslo, Norway) and P. Alestrøm (Aas, Norway) ..... 195

**Announcement from the Publisher** ..... ii

**Review**

- Tilapia culture in saline waters: a review  
A.V. Suresh and C.K. Lin (Bangkok, Thailand) ..... 201

### Diseases, Parasites and Predators

- Recovery of infectious pancreatic necrosis virus from the faeces of wild piscivorous birds  
P.E. McAllister and W.J. Owens (Kearneysville, WV, USA) ..... 227

### Genetics and Breeding

- Application of the scale cover gene (N) to identification of type of gynogenesis and determination of ploidy in common carp  
B.I. Gomelsky, O.V. Emelyanova and A.V. Recoubratsky (Moscow Province, Russia) ..... 233
- Growth and mortality of diploid and triploid tiger trout (*Salmo trutta* × *Salvelinus fontinalis*)  
L.R. McKay (Guelph, Ont., Canada), P.E. Ihssen (Maple, Ont., Canada) and I. McMillan (Guelph, Ont., Canada) ..... 239

### Husbandry and Management

- Production of *Crassostrea rhizophorae* (Guilding) spat from hatchery-reared larvae  
J.N. Rampersad and D.R. Ammons (St. James, Trinidad and Tobago) ..... 253
- Growing hatchery-reared Pacific oysters (*Crassostrea gigas* Thunberg) to marketable size in trays – observations on costed small-scale culture methods and rough-handling trials  
B.E. Spencer, D.B. Edwards and P.F. Millican (Conwy, UK) ..... 261
- Social control of growth in *Macrobrachium rosenbergii*. IV. The mechanism of growth suppression in runts  
I. Karplus, G. Hulata and S. Zafrir (Dor, Israel) ..... 275
- Relationship between water quality, phytoplankton community and off-flavors in channel catfish (*Ictalurus punctatus*) production ponds  
W.J. Lorio, P.W. Perschbacher (Tishomingo, OK, USA) and P.B. Johnsen (New Orleans, LA, USA) ..... 285

### Nutrition

- Effect of squid meal on growth of *Penaeus monodon* juveniles reared in pond pens and tanks  
L.E. Cruz-Suárez, D. Ricque (Nuevo León, México) and AQUACOP (Taravao, Tahiti, French Polynesia) ..... 293
- Use of soybean meal and distillers grains with solubles as partial or total replacement of fish meal in diets for channel catfish, *Ictalurus punctatus*  
C.D. Webster, J.H. Tidwell, L.S. Goodgame, D.H. Yancey and L. Mackey (Frankfort, KY, USA) ..... 301
- Dietary zinc requirements of channel catfish, *Ictalurus punctatus*, swim-up fry in soft and hard water  
J. Scarpa and D.M. Gatlin III (College Station, TX, USA) ..... 311
- Effects of dietary vitamin E and synthetic antioxidants on composition and storage quality of channel catfish, *Ictalurus punctatus*  
D.M. Gatlin III, S.C. Bai (College Station, TX, USA) and M.C. Erickson (Griffin, GA, USA) ..... 323
- Requirements for lysine and arginine by rainbow trout (*Oncorhynchus mykiss*)  
K.-I. Kim (Cheju, South Korea), T.B. Kayes and C.H. Amundson (Madison, WI, USA) ..... 333
- Effects of high-ash diets on growth, feed efficiency, and zinc status of juvenile Atlantic salmon (*Salmo salar*)  
K.D. Shearer (Matredal, Norway), A. Maage, J. Opstvedt and H. Mundheim (Bergen, Norway) ..... 345
- Evaluation of microalgal clones for mass culture in a subtropical greenhouse bivalve hatchery: growth rates and biochemical composition at 30°C  
J.R. Nelson, S. Guarda, L.E. Cowell and P.B. Heffernan (Savannah, GA, USA) ..... 357

### Physiology and Endocrinology

- GnRHa-induced ovulation of brown trout (*Salmo trutta*) and its effects on egg quality  
C.C. Mylonas, J.M. Hinshaw and C.V. Sullivan (Raleigh, NC, USA) ..... 379

**Book Review**

Captive seawater fishes.....	393
Announcement.....	394
Author Index .....	395

